

REMARKS

Claims 50-90 are pending in the present application. Claims 50-75, 77-79, and 82-87 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0034971 to Chang ("Chang") in view of U.S. Patent Application Publication No. 2004/0204074 to Desai ("Desai") and in further view of U.S. Patent No. 6,522,725 to Kato ("Kato"). Claim 64 was rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Chang and Desai in view of U.S. Patent No. 6,480,599 to Ainslie et al. ("Ainslie"). Claims 76, 80, 81 and 90 were rejected under 35 U.S.C. §103(a) as being unpatentable over Chang, Desai, and Kato as applied to claims 72 and 62, and in further view of U.S. Patent Application Publication No. 2004/0192384 to Anastasakos et al. ("Anastasakos"). Claim 88 was rejected under 35 U.S.C. §103(a) as being unpatentable over Chang, Desai, and Kato as applied to claim 82 and in further view of U.S. Patent Application Publication No. 2004/0058647 to Zhang et al. ("Zhang"). Claim 89 was rejected under 35 U.S.C. §103(a) as being unpatentable over Chang, Desai, and Kato as applied to claim 62 and in further view of U.S. Patent No. 7,099,825 to Cook ("Cook").

The claims have now been amended. Claim 54 has now been canceled. Reconsideration of the application in view of the following remarks is respectfully requested.

Rejections under 35 U.S.C. § 103(a)

Claims 50-75, 77-79 and 82-87 were rejected under 35 U.S.C. §103(a) as being unpatentable over Chang in view of Desai and in further view of Kato. Claim 64 was rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Chang and Desai in view of Ainslie. Claims 76, 80, 81 and 90 were rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Chang, Desai, and Kato as applied to claims 72 and 62, and in further view of Anastasakos. Claim 88 was rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Chang, Desai, and Kato as applied to claim 82 and in further view of Zhang. Claim 89 was rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Chang, Desai, and Kato as applied to claim 62 and in further view of Cook.

Chang describes a hands free car kit that includes a digital signal processor (DSP) 108 having on-chip memory 112. See Chang, paragraph [0020]. Off-chip memory 116 is also provided in the hands free car kit, e.g., flash memory, for storing data when power is removed from the hands free car kit. See Chang, paragraph [0022]. Various limited function programs, which may include a voice recognition (VR) program 130, a speech synthesizer program (SS) 132, and an acoustic echo canceller (AEC) 134, are stored within the off-chip memory. See Chang, paragraph [0021]. The limited function programs are loaded into the on-chip memory 112 from the off-chip memory 116 when they are required to be used by the DSP 108. See Chang, paragraph [0023].

Desai describes a console that communicates with a mobile phone. See Desai, Abstract. A data storage device 190 on the console 100 may store applications that have code that is executable on the mobile phone 300. See Desai, paragraph [0027]. One or more of the software applications may be uploaded to the storage device 390 of the mobile phone 300 temporarily for execution on the mobile phone 300. See Desai, paragraph [0027].

Kato describes a speech recognition system including a switching system 1 and a telephone terminal 3. See Kato, Fig. 3 and column 3, lines 38-39. A network control unit 105 of the switching system 1 downloads a speech recognition software module 4 to the telephone terminal 3. See Kato, column 3, lines 53-57. A processing section 305 of the telephone terminal 3 uses the speech recognition software module to compare a speech signal with standard patterns stored in memory 304 and transmit the recognition result in an application interface (API) from the telephone terminal 3 to a speech recognition host section 106 of the switching system 1. See Kato, column 3, lines 21-47, and column 4, lines 1-8.

Ainsle describes a telecommunication system that includes a call receiving means that interrogates a caller using automatic speech recognition programs to identify the type of service desired by the caller. See Ainsle, column 3, lines 37-47. The automatic speech recognition programs can be remotely updated by a customer service computer. See Ainsle, column 4, lines 25-34.

Anastasakos describes a distributed speech recognition system, wherein a speech signal is directed to one of a plurality of speech recognition engines based upon user preferences and environment information. See Anastasakos, paragraphs [0016]-[0018].

Zhang describes a hands free adapter that converts audio signals into commands that are sent to a device. See Zhang, paragraphs [0042]-[0043]. Additionally, device events are converted into indicators that are presented by the hands free adapter. See Zhang, paragraph [0044].

Cook describes a voice recognition system that provides voice recognition data that is customized for both a user and the device being used. See Cook, column 2, lines 25-28.

Independent claim 50 of the present application has been amended so as to recite:

A method for carrying out a hands-free communication comprising:
establishing a respective connection from each of a plurality of telecommunication terminals to a service server over at least one communication network;
loading, at least temporarily, at least one program from the service server into at least one of the plurality of telecommunication terminals, the at least one program being configured to implement a speech processing algorithm;
implementing, in the at least one of the plurality of telecommunication terminals, the at least one program for use at least for a duration of a communication connection to process a speech signal; and
transmitting the processed speech signal over the at least one communication network.

Support for the amendment to claim 50 may be found in the Specification, for example, at paragraph [0017]. It is respectfully submitted that these features would not have been obvious in view of any combination of Chang and Desai. None of Chang and Desai teach or suggest transmitting over a communication network a processed speech signal processed in a telecommunication terminal by implementing a program that is loaded from a service server having connections to a plurality of telecommunication terminals, as recited in amended claim 50. Chang does not teach or suggest that programs may be loaded onto a terminal from a service server connected to a plurality of telecommunication terminals over a communication network. In contrast, Chang merely describes transferring programs from off-chip memory 116 to on-chip memory 112, both of which are included in the hands free car kit. See Chang, fig. 1 and paragraphs

[0016] and [0020]. With respect to Desai, that reference merely describes a console that communicates with a single mobile phone to upload programs to the mobile phone. See Desai, paragraph [0027] and figs. 1-2. Desai nowhere teaches or suggests downloading a program from a server that has connections established to a plurality of telecommunication terminals, as recited in claim 50. Thus, any combination of Chang and Desai, to the extent proper, could not render claim 50, or any of its dependent claims 51-53, 55-71, and 89-90, obvious. Nor do any of Kato, Ainsle, Anastasakos, Zhang, and Cook cure the deficiencies of the combination of Chang and Desai with respect to claim 50. Thus, any combination of Chang, Desai, Kato, Ainsle, Cook, Anastasakos, and Zhang, to the extent proper, could not render claims 50, or any of its dependent claims 51-53, 55-71, and 89-90, obvious.

Independent claim 72 has now been amended to recite a service server configured to “establish a connection between the service server and ... at least one telecommunication terminal in response to a request signal from [a] server-based speech recognition system” and “transmit, in response to a defined request signal, the at least one program to the at least one telecommunication terminal for at least temporary implementation of the at least one program.” Similarly, independent claim 82 has been amended to recite “a receiver configured to establish a connection with a service server, in response to a request signal from a server-based speech recognition system, and receive at least one program for implementing a speech processing algorithm transmitted from the service server for at least temporary implementation of the at least one program.” Support for the amendments to claims 72 and 82 may be found in the Specification, for example, at paragraph [0020]. It is respectfully submitted that these features would not have been obvious in view of any combination of Chang and Desai. None of Chang and Desai teach or suggest establishing a connection between a service server and a telecommunication terminal in response to a request signal from a server-based speech recognition system and downloading a program for implementing a speech processing algorithm transmitted from the service server, as recited in claims 72 and 82. As acknowledged in the Office Action, Chang does not teach or suggest downloading a program from a service server connected to a plurality of telecommunication terminals over a communication network. See Detailed Action at page 3. With respect to Desai, that reference merely describes a

console that communicates with a single mobile phone to upload programs to the mobile phone. See Desai, paragraph [0027] and figs. 1-2. Desai does not teach or suggest establishing a connection with a service server in response to a request signal from a server-based speech recognition system, as recited in claims 72 and 82. Thus, any combination of Chang and Desai, to the extent proper, could not render any of claims 72 and 82, or any of their respective dependent claims 73-81 and 83-88, obvious.

Moreover, none of Kato, Ainsle, Anastasakos, Zhang, and Cook cure the deficiencies of the combination of Chang and Desai with respect to claims 72 and 82. Kato merely describes a network control unit 105 of a switching system 1 that downloads a speech recognition software module 4 to a telephone terminal 3. See Kato, column 3, lines 53-57. Kato does not teach or suggest any connection to a server that is established in response to a request signal from a server-based speech recognition system. Ainsle merely describes a system that interrogates a caller using automatic speech recognition programs to identify the type of service desired by the caller. See Ainsle, column 3, lines 37-47. Anastasakos merely describes selecting an appropriate speech recognition engine based upon user preferences and environment information. See Anastasakos, paragraphs [0016]-[0018]. Regarding Zhang, that reference merely describes a hands free adapter. See Zhang, paragraphs [0042]-[0044]. Cook merely describes a voice recognition system that provides voice recognition data that is customized for both the user and device. See Cook, column 2, lines 25-38. Thus, any combination of Chang, Desai, Kato, Ainsle, Cook, Anastasakos, and Zhang, to the extent proper, could not render any of claims 72 and 82, or any of their respective dependent claims 73-81 and 83-88, obvious.

With specific regard to claim 57, which depends from independent claim 50, that claim includes the feature that "the connection is established between the service server and the at least one of the plurality of telecommunication terminals in response to a request signal of a server-based speech recognition system." Thus, any combination of Chang, Desai, Kato, Ainsle, Cook, Anastasakos, and Zhang, to the extent proper, could not render claim 57 obvious for the same reasons discussed above with respect to claims 72-88. It is respectfully submitted that dependent claim 57 is allowable for this additional reason.

Reconsideration and withdrawal of the rejection of claims 51-53, 55-75, 77-79 and 82-87 under 35 U.S.C. §103(a) in view of Chang, Desai, and Kato, claim 64 under 35 U.S.C. §103(a) in view of Chang, Desai, and Ainsle, of claims 76, 80, and 81 under 35 U.S.C. §103(a) in view of Chang, Desai, Kato, and Anastasakos, of claim 88 under 35 U.S.C. §103(a) in view of Chang, Desai, Kato, and Zhang, and of claim 89 under 35 U.S.C. §103(a) in view of Chang, Desai, Kato, and Cook, is respectfully requested.

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CONCLUSION


It is respectfully submitted that the application is now in condition for allowance.

The Commissioner is hereby authorized to charge any unpaid fees deemed required in connection with this submission, including any additional filing or application processing fees required under 37 C.F.R. §1.16 or 1.17, or to credit any overpayment, to Deposit Account No. 04-0100.

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Respectfully submitted,

By



Erik R. Swanson

Registration No.: 40,833
DARBY & DARBY P.C.
P.O. Box 770
Church Street Station
New York, New York 10008-0770
(212) 527-7700
(212) 527-7701 (Fax)
Attorneys/Agents For Applicant